

ABSTRACT

A process for reducing the context memory requirements in a processing system is provided by a generic, lossless, compression algorithm applied to multiple tasks or multiple instances running on any type of processor. The process includes dividing data in a task of a multi-tasking system into blocks with each block containing the same number of words. For the data in each task, a word in a block having a maximum number of significant bits is determined, a packing width to the block of said maximum number of significant bits is assigned, and the least significant bits of each word in the block into a packed block of the packing width multiplied by a total number of words in the block is encoded with a lossless compression algorithm. A prefix header at the beginning of each packed block to represent a change in the packing width from the packed block from a packing width of a previous packed block is also provided.